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NOVEMBER 27, 1922

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XIII

SPECIAL FEATURES

Number
22

THE MASSACHUSETTS AIR LAW
THE HARTFORD AVIATION MEET
THREE GLIDING MEETS IN EUROPE

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HIGHLAND, N. Y.
225-FOURTH AVENUE, NEW YORK

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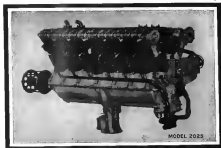
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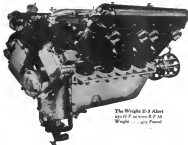
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NOVEMBER 27, 1922

AVIATION

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AVIATION

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No. 33

America's Advance in Aviation

TRAVELLERS returning from Europe and foreign aviationist magazines alike furnish sufficient evidence that Europe is not taking America's recent advance in aviation with equanimity. As long as we only possessed the world's altitude record, there seemed to be little competition in test this performance. But now that American pilots have memorably established new world's maximum speed, climb speed, maximum duration and maximum distance records—two of these performances were not officially observed according to F.A.I. rules—the designs associated from aviationist exhortations to its national airplane construction, aviationist associations and government officials to leave nothing undone with a view to reconquering the lost laurels.

This state of affairs, while highly complimentary to our industry, should not make us shudder on our records. Progress in aviation never ceases, and progress can only be achieved and retained by increasing development work.

There is, incidentally, one competition in which we should like to see American aircraft entered next year, and that is the Schneider Maritime Aviation Cup race which will be held in England next summer. The United States has been an absentee from this international contest since before the Great War. During the past two years we have repeatedly urged American participation in this important event.

From the international viewpoint the Schneider Cup race was an important in the field of airplane construction as the Gordon Bennett and Deutsch Cup races were, and the Pulitzer Trophy race now is, in the matter of land planes. As the annual contests for the Schneider Cup are generally held sometime in August, there is plenty of time left to our manufacturers for preparing the plans for challenges. Perhaps, as we have before suggested, the Navy could be prevailed upon to place orders for such machines, and enter them in the Schneider race, the same as it did in the last Pulitzer race. High speed is as important as speed record work as it is in land pursuit work. If we compare the performance of this year's Schneider Cup and Pulitzer Trophy races, we are struck by the fact that while the winner of the former averaged 148 m.p.h., the winner of the latter was some 35 miles slower. In justice to the Navy 754 plane it must be said that it was equipped only with a 525 hp. engine as against a 450 hp. powerplant of the Supermarine which was the Schneider Cup. This makes a fair comparison of the two performances difficult, but it does not detract the fact that the British entry has available for maneuver into a power plant a race which is 25 miles faster than the present type of fighter planes of our navy. This fact alone should act as an incentive to those concerned with our national defense to have America worthily represented at the forthcoming Schneider Cup race.

Improved Competitions for Improved Airplanes

WINTER, with its unenviable curtailment of flying activities in the northern latitudes, is the time when those concerned with the advancement of aviation should take account in view of the events to be staged the coming year.

Reviewing the situation, it is curious to note that from the early days of aviation to the late, having very few races, every airplane contest has been a speed event without limitations. The ever increasing performances which have been achieved from year to year have mainly been the result of an accumulation of horsepower. It seems that the time has come when a halt should be called to this extravagant policy and the regulations be so drawn up as to foster real efficiency in airplane design. This can only be achieved by limiting one or more factors which make up the characteristics of an airplane.

Options vary as to which of these factors should be held within limits. There have been competitions in which complicated formulas were resorted to in order to foster efficiency, but none of them proved really satisfactory. Arbitrary limitations of horsepower, or of gross weight, or of maximum speed, are never entirely satisfactory in that they eliminate from the start machines which it would be interesting to see compete. It is one question the first limitation should be put on landing speed, for this makes for safety and so interests military and civil aviation alike. But considering the difficulty of correctly determining the landing speed, we believe that this limitation could best be expressed by limiting the wing loading, as this influences the gliding angle, and hence to a large extent the landing speed. The second limitation we should like to see embodied in next year's airplane contests is a power loading limit. Such a restriction would be beneficial in three ways: First, it would afford a true criterion of airplane efficiency as that improved performance could only be achieved through refinements in design, instead of by the help of brute engine power; second, it would permit of having airplanes of different characteristics (say two-seaters of from 60 to 200 hp.) compete on fairly even terms; and third, it would prevent the practice of "taking" on contests the normal performance of a ship by flying it close to the stalling angle for the purpose of carrying the greatest possible useful load while a passenger is put on this characteristic. Such a practice is not only very risky in case of engine failure; it also violates the purpose of "pay load" contests.

Obviously, for reasons of expediency, limits of wing loading and of power loading should not be made too severe in the beginning, else this might discourage contestants. But a start should be made along this line of thought, for limitation of some basic factors alone will lead us to improved efficiency in airplane design.

Three European Gliding Meets

What we can learn from the Principal Competitions Held During the Summer

By Edmund T. Allen

Now the third gliding meet of the summer is over, we may take breath and ask ourselves what it is all about. All eyes are turned to the building of gliders have been lately noted. Some of them have stood it, some of them have not. After Chenevix-Preaux we had all decided that the last moments of a good year were a valuable lesson. After the Wasserkuppe we knew that a good gliding year was the one and only requirement. When we walked down the hill after the end of the English meet, we said that anything having good outside would be a good year.

The Question of Suitable Ground

Of course the terrain was the real difference. The French at Chenevix-Preaux was not due to French stupidity, as the Germans said. It was due to the lack of rising currents, or at least any desired sort of them. The English at the other hand the success at the Wasserkuppe was not due to the fact that Germany possesses the one and only soaring terrain in the world, as the French press loudly proclaimed. The results at Hildesheim were that.

What we get the three meets is a little perspective, it is clear that the success or failure of gliding competitions depends on three factors. These are, in the order of their importance, terrain, glider, and pilot. A fourth may be added; the organization of the meet.

By all the theories of meteorology, Hildesheim under the wind which prevailed during the whole of the meet should have been the worst place of the three for soaring. It is situated at the extreme southern end of England, which usually gets all the best breeze from the Channel. The north side of the ridge is ideal for soaring, even though it is but 200 ft. high. But during the entire meet the wind unexpectedly blew from the north. Starting from the North Downs in Kent the wind came down hill with a decreased component until it struck the little ridge on the south side of the meet. In fact, it was so strong that the soaring had to take place. But here, as in other places, the English were more surprised. The area of rising current, though broad, covered a very small part of the Wasserkuppe. From the wind blowing from the west, which is rather seldom, there is an area of rising current about half a mile long and a quarter of a mile wide. The air mass here at an average rate of one meter per second. It is a very unexpected meteorological wind, a strong one of ten times a meter per second. Consequently only a very good machine can remain up.

It is not true that the Wasserkuppe is much better than the French terrain (two times as good) as we are not to discount the German prize money at that amount. Most of the best machines at the Chenevix-Preaux had a making speed of about one meter per second, per second. They would therefore have settled to the ground at the end of the day. It does not, however, follow that the German machines could have soared even at the Chenevix-Preaux. The Pig de Chenevix-Preaux itself is an extreme one. It is an extraordinary hill. Their more shaped after style and broke the wind, rather than have it spread. Except under unusual circumstances a flight of five minutes was possible here.

At Hildesheim conditions were not so good. A pilot who glided with sufficient skill to keep it in the narrow spaces at the Wasserkuppe only extraordinarily good machines could soar, but no great skill was required to stay in the large areas of rising current. The German machines can machine could soar at a meter low difficulty indeed.

The Machine

Now as to machines. The French had two years of Germany's experience to go on. They utterly disregarded it, partly from national prejudice, partly from an enormous idea that there was nothing to learning. As a result most of the

effort in preparing machines for the Chenevix-Preaux was in the wrong direction. All eyes were turned to the machine which the Germans had made two years before, of building for lightness only. Second, the prevailing type of machine at the French meet was a motorized sport plane instead of a true glider.

In Germany all the machines were of the true glider class. This does not mean that they were all alike. But they were all especially designed for soaring. Most of their designers had been at the meets of 1929 and 1931. In the 1931 machines the machines of the past two years had been produced and tested. In the first place, they knew what to build for. On this point all other nations are still somewhat shaky. In the second place they had solved the problem of control. Their remarkable results were inevitable.

In England there were no motorized sport planes. They were due partly to the fact that some of the aircraft manufacturers were interested in gliders, and partly to the very short notice that was given to contestants. There were some friends of nature, such as the first gliding club in any country unfortunately, they were not. In England as in Germany most of the machines were specially designed for gliding by competent designers. Unfortunately only two of them had good control, and these were far from being the best in gliding flight. It was clear that England had learned from the two earlier meets. But it was equally clear that English glider designers still lacked actual experience.

The Problem of Gliders

It is difficult to compare glider pilots' experience. That is almost the vital point of soaring no one can doubt. The machine can do well if it has a pilot who is unadaptable to soaring flight. On the other hand, of course, the best glider pilot in the world cannot make a "dead" machine soar. Soaring requires a peculiar factor of adaptability similar to that required for test piloting. It is not as amazingly large proportion of successful glider pilots have been test pilots. If a pilot can climb out of a bomber into a wing, and fly by himself, he can also climb out of his seat into a glider. The best machine at the English meet made a foolish proposition, it was made because the pilot could not adapt himself to the new way of flying. The requirement about "control" which designers were perpetually hearing from these pilots was only in part justified. To a large extent the trouble was that glider control has a different feel from those of motorized machines. At the same time there was a machine illustrated. A certain designer who was also an experienced glider pilot made a beautiful performance in his little machine. The machine was not a glider, it was a motorized glider in the most sense of it, it was a motor and reported its machine entirely out of control. Glider piloting is not difficult, it is delicate, and it is often really done.

At all three meets the pilots were featured more prominently than the designers. The names of the best pilots in France appeared in its program at Chenevix-Preaux. This was equally true in England. And at the Wasserkuppe the pilots were probably all near pilots of war machines. Most of them had been in the squadron of Baron von Richthofen.

It is clear from these three meets that glider piloting is as much a delicate, delicate job as it is a motorized machine. It is distinct from motorized plane construction. Not all good motor pilots can become glider pilots. Of those who can, only a few can get the knack from the first instant, and none can get it after practice. But a word of advice may be given to all prospective entrants to future American meets, advising the pilot must apparently of preliminary soaring is the only way of learning flight that will do justice to the machine.



An intense gliding fight: Oswald Wright hovering in a glider near Kitty Hawk, N. C., Jan. 25, 1911

Organization of the Meets

Now as to the organization of the meets. The French meet was well organized. They made some mistakes, of a kind very noticeable in those responsible for future meets. But they showed some admirable examples to copy. They began only. Many of the machines were more in prospective design. The rules, which somewhat handicapped, were clearly defined and well thought out. The contestants got behind them the chief astronomical, mechanical, sporting, and ordinary details of France. They provided living accommodations and bazaar space for all contestants. They took adequate care of the press. Above all there was the atmosphere of cheerfulness, French courtesy and hospitality, and keen public interest, which gave the meet an excellent mood. The only serious fault in organization not directly due to the unfortunate choice of terrain was the failure to provide adequate facilities for making the machines on the hill. Otherwise, the efforts of the French Comité d'Aviation sans Moteur deserve the highest commendation.

The German meet had an entirely different atmosphere, one of poverty and scientific research rather than of sport and British looking. It accompanied them was that of a made but permanent research station rather than of an excellent temporary camp. The distribution of the prizes was such as to encourage development rather than to call out spectacular single performances. One machine which was built of inexpensive bits of wood and metal was entered to the Wasserkuppe twenty miles on a hand pushed cart. It was disqualified by the committee on safety, but it put up an excellent and sustained day-by-day performance. The judges had such documentary proof that they were able to give this machine a special prize sufficient to enable its designer to build a machine of better materials for the next meet.

The Daily Mail Competition had as its main fault too short a notice for its competitors. Although for the hosts, everything was done surprisingly well. British machines arrived

at the meet, and ten of them flew. But the hosts were exhausted in their battle which a few more months of work would have eliminated.

While we are not ready to lay down any final conclusions on the subject of gliding, it is desirable to point out certain aspects of the conditions and performances of the 1932 meets which should be borne in mind in the 1933 gliding meets in the United States. These may be summarized as follows:

Some Suggestions

The choice of terrain is the first condition of a successful meet. The French terrain was happily bad. The German terrain was the best selected to study and understand performance. The English terrain was almost too good, permitting as it did spectacular performances on second time gliders. It is suggested that a model of the terrain chosen be tested as a wind tunnel with motor-driven. Finding this, the terrain should at least be carefully suggested by glider pilots, assisted by a meteorologist.

The tremendous expenditure and energy which is wasted in constructing (cheap machines) and in repeating old mistakes of design might be saved by a preliminary campaign of education. All prospective designers of gliders should be urged to acquaint themselves thoroughly with the models and records of the 1929, 31 and 32 German meets, the French Comité, and the Daily Mail Competition. They should further be urged to complete their machines in time for preliminary tests before departure, and to have a week or so of preliminary flights on the chosen terrain before the meet begins.

This last suggestion would have the additional merit of discovering and developing glider pilots. The meets so far have had to serve as a training ground for pilots, real accomplishments coming only in the closing days.

A final word to the designer. Let us remember that the first requisite of a glider is a minimum sinking speed, which

does not mean minimum weight, but which is largely a matter of high L/D. The second requirement is good controls or maneuverability.

Those who are responsible for organizing the meet should realize that the distribution of the prize money will direct the whole program. A large number of prizes will attract more machines and call out more talent and excellent performance than one or two spectacular ones. If the prizes are well chosen they might well be more discriminatory than to meet general circumstances. There is nothing more desirable to a man than to get up a good performance and lose out on the prize through some technicality. I would further suggest that both limitation and direction of flight have seemed to have real aeronautical interest. It is now an established fact that after a good income a day would and a directly continuous glider any difficult glider pilot can go off after lunch and stay until dark. Long duration flights add of course high speed interest. But it might be my old of prize can direct the effort toward the still unsolved problems, such as soaring over level ground and stepping from one area of flying to another. Prizes offered for distance flying would encourage many new and interesting developments. Prizes for accurate sitting would also tend to a real discussion between good and bad machines.

To say any knowledge arrangements are already under way for two gliding meets in the United States, I do not know how many more organizations may have other gliding meets up their sleeves. If we are to put up creditable performances rather than the point of view of international spirit or of technical records, we must leave from the spectators and ourselves of other nations. Every American interested in the American flying record of 1933 would do well to study the late European ones of 1932.

Safety First in the Air

In connection with the nation-wide "Safety First" movement now under way throughout the country, the National Aeronautics Association of U. S. A. calls attention to the importance of taking measures for safety in flying. For every property controlled and regulated, is one of the safest methods of transportation are in public operation.

An evidence of this fact Col. Paul Henderson, Assistant Postmaster General, in charge of the Air Mail, states that in



Col. Henderson's Unifleet

The "Big Wing" "Unifleet" (650 hp. Wright 22 engine) which the Navy ordered to the Pulitzer Trophy race at Dayton, Oct. 14, 1932.—The large size of this racer may be judged by comparison with the two men standing in front of the ship.

the last fifteen months, flying every day in all kinds of weather with twenty planes, the air transportation Air Mail Service has earned out 50 per cent of all scheduled flights without a single fatality or serious mishap. This means that the mail there have covered over 2,000,000 miles in flight, spending up the delivery of millions of letters between the Atlantic and Pacific coasts with the respectability of military mail, and, notwithstanding the difficulties of crossing the continental mountain range in snow and rain and fog, have served out their work with safety and dispatch.

This record means only one thing, that careful regulation respecting the condition of the equipment and the rules of flight are essential to safe air navigation. And when such regulations are observed safety is assured.

Col. Benjamin F. Cowles, treasurer of the National Aeronautics Association, and formerly an Air Service officer, speaking from the standpoint of a flier and not a government official, stated in Washington that "safety in flight does not depend on the reduction of normal landing speed, nor the development of some extraordinary safety device to be attached to aircraft. It rather depends on common sense, like any other activity requiring mechanical equipment, such as swimming, snow travel, or the common every day driver."

"Look at the record made at the recent Detroit air meet. Aside from these planes which were flown from all over the country to Detroit, the contestants in the various races flew over 200,000 miles at top speed, averaging an average speed of over 170 m.p.h. and not a single person, pilot or passenger was even injured. This record was the epitome of proper and latest high-speed operations, at Detroit, would have brought forth a deplorable casualty list."

Colonel Cowles further stated that all persons entering a take pleasure an aircraft should personally only responsible equipment, should avoid "over" flying, and secure adequate pilot that they are in the hands of persons familiar, not only with flying, but also with the maintenance and upkeep of aircraft, and possessed of the proper facilities for housing and caring for all flying equipment. In the absence of government regulations and have machine such equipment necessary, the individual must satisfy himself of the responsibility and reliability of the operating equipment. To do otherwise is to contribute to dangerous conditions in the air. If pilot patronage, the "open" floor and the "strict" profession will have, perhaps, to close out.

The New Massachusetts Aircraft Law

By E. P. Warner

Professor of Aeronautics, Massachusetts Institute of Technology

Massachusetts, like many other states, enacted very early in the history of flying an aircraft law which has become substantially a dead letter. In 1911 the legislature passed a statute requiring the registration of airplanes and the licensing of pilots and provided at considerable length the kind of flying that could and could not be done. Some of the provisions were absolutely impossible to fulfill, some of them were so vague as to be useless, and some of them were so restrictive that they were very seriously enforced before the war.

The law was amended once or twice in details and after the war some attempt was made to put it into effect. The registration of motor vehicles, carried with the name of serial vehicles as well as those which plug in the surface, suggested an artificial advisory board, the members of which undertook without compensation to inspect aircraft and examine pilots as to their efficiency. A number of airplanes were registered and pilots licensed, but a number of others continued to fly without licensing with the legal requirements. No really serious effort was made to enforce the law and there were no provisions for failure to register.

During the last year, in view of the desire in enacting any measure of federal regulation and of the adverse public sentiment resulting from accidents, the state legislature in Massachusetts felt it advisable to amend the law, bring it up to date, and meet in its enforcement. The re-drafting of the statute was therefore undertaken by a group of former pilots of motor vehicles, carried with the name of serial vehicles as well as those which plug in the surface, suggested an artificial advisory board, the members of which undertook without compensation to inspect aircraft and examine pilots as to their efficiency. A number of airplanes were registered and pilots licensed, but a number of others continued to fly without licensing with the legal requirements. No really serious effort was made to enforce the law and there were no provisions for failure to register.

Licensing of Pilots

The law, officially designated as Chapter 534 of the Acts of the Massachusetts General Court 1932, calls first of all for the licensing of pilots and the registration of aircraft. It is provided that the register of motor vehicles shall appoint an advisory board of aeronautical experts, the board consisting of at least three members. The board is to determine the competency of pilots and the kind of flying that they may do. The applicant for a pilot's license shall make such books as the board shall require and that general should be shown before them or demonstrated in any other manner that they require. The register, Frank A. Goodwin, is secretary and a member of the advisory board, Theodore E. Hoffman, a former Army pilot, Arthur E. Richmond, also an ex-military pilot of very extensive experience both during and since the war, and Melvin W. Hinkley, former Air Corps pilot for several years, three times and engaged in the construction of aircraft. Bernard P. Baldwin, a member of the American Air Forces as they during the war and a lawyer, who did the major part of the work of actually drafting the present statute, and Edward P. Warner, aeronautical engineer.

Licenses and registrations are to be designated as private or recreational, and no one may fly carrying passengers or merchandise for hire unless he is the holder of a commercial license. In addition, such license may contain restrictions as to the type of aircraft which the pilot can operate. This

statute the necessity of having the private owner of a JN show his qualifications as thoroughly as would be required of the pilot of a large passenger-carrying airplane. The fee for a pilot's license is \$4.00 and the charge for registration is \$10.00. Both license and registration are subject to renewal annually. It is expressly provided that no license or registration shall be required for pilots or aircraft licensed or registered by the commission, and that the provisions relative to these subjects therefore become applicable only in the case of a federal registration bill. It is further provided that individuals temporarily exempted from the law shall be liable for having not complied with any requirements of their own state. Commercial airlines and pilots also need not be licensed if they are engaged chiefly in interstate shipment and have complied with all requirements of the state of the pilot's residence and the aircraft's ownership. Provision is made for allowing unlicensed pilots to "soar" over approved locations and under the observation of their instructors.

Registered Aircraft

Each registered aircraft must carry a number or other designated symbol on the fuselage and on the lower wing. Unlicensed aircraft may be flown over approved fields of open water for the purpose of testing, but they must remain at all times close enough to each field to return by a normal flight.

The register may suspend or revoke license if a pilot has flown in a dangerous manner or has transgressed any of the regulations provided in the act. Suspension of license follows on the operation of an aircraft under the influence of liquor, the aircraft has flown in a dangerous manner or has transgressed any of the regulations provided in the act.

Any change to a registered aircraft must be reported to the register and except in the case of changes in the engine or motor, the aircraft must not be flown again in commercial use until it has been re-approved by the advisory board. An advisory board in also given power to inspect machines at any time and to suspend those which have so deteriorated as to be unsafe.

Short Flying Record

Short flying exhibitions are in general frowned upon. No aircraft may be operated over a crowd of spectators or persons, and it is provided that a crowd of spectators may not be present and even then only at an altitude which permits of a safe glide to a normal landing place. It is to be expected that the present provisions will be very strictly enforced. It is provided that the register of motor vehicles shall appoint an advisory board of aeronautical experts, the board consisting of at least three members. The board is to determine the competency of pilots and the kind of flying that they may do. The applicant for a pilot's license shall make such books as the board shall require and that general should be shown before them or demonstrated in any other manner that they require. The register, Frank A. Goodwin, is secretary and a member of the advisory board, Theodore E. Hoffman, a former Army pilot, Arthur E. Richmond, also an ex-military pilot of very extensive experience both during and since the war, and Melvin W. Hinkley, former Air Corps pilot for several years, three times and engaged in the construction of aircraft. Bernard P. Baldwin, a member of the American Air Forces as they during the war and a lawyer, who did the major part of the work of actually drafting the present statute, and Edward P. Warner, aeronautical engineer.

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building at less than 500 feet except when just taking off or landing. Landing in public parks and in fields containing large numbers of people is also barred.

The proposed law also may mean airplane and competition, but a careful examination of the law itself will show that there is nothing in it which will interfere with aerial stunts flying and no pilot is prevented from doing anything which, in justice to the public and to himself, he should wish to do. It is believed that the police regulations incorporated in the act constitute the minimum of what should be adopted as necessary by any federal law which is drafted with the public interest and the safety of the pilot in mind. The act also provides that the only effect of the state law after the federal law has been passed will therefore be to put the enforcing authority of the state behind the federal government. It is very necessary that this should be done, as federal officials can hardly be expected to watch for and detect minor breaches of regulations by aircraft pilots all over the United States and its territories. They should be able to concentrate the activities of state and local officials in the work of enforcement.

Prize for Papers on Airships

The Council of the Royal Aeronautical Society have decided to continue the Gifford Prize for the best paper on airships. The regulations covering the award of this prize are given below, from which it will be seen that the date for the receipt of the papers of interest is November 1st of the first award in Dec. 31, 1932, while the papers themselves must reach the Secretary on or before March 31, 1933.

Regulations of RAS Memorial Fund

From the income of the above Fund, a sum of twenty-five pounds will be offered annually as a prize for the best paper presented by the Royal Aeronautical Society, on any subject of a technical nature in the sciences of aeronautics. Other things being equal, preference will be given to papers which relate to airships.

Glidering Meet at Daytona, Fla.

The Chapter of Comenore of Daytona, Fla., is planning to hold a gliding and soaring meet at Ormond-Daytona Beach sometime next January. The Aero Societies Club of America, which has done much work in the past by training the youth of this country by means of gliding and model airplanes, is sponsoring the meet. The Chapter of Comenore of Daytona, U.S.A., has given the assurance of cooperation. The Daytona Chapter of Comenore states that a \$1,000 trophy has already been donated for this contest and that it is hoped to make substantially to this institution by other trophies and cash prizes, too.

In considering the offer of the Chapter of Comenore of Daytona, the Aero Societies Club of America has decided that it would be necessary to wait until next season if a meet were to be held near the great centers of population in the South. Such a delay would be desirable in the face of the uncommenced gliding in Florida.

Although the Ormond-Daytona Beach has no trials such as were taken advantage of during the contests already, the sand dunes of Ormond Beach offer an interesting place from which to glide, as was proven by the fact that all the early experiments here, such as Glenn Curtiss, Army, Herring and the Wright brothers used them. Orville Wright was one of the first men to develop the art of gliding, although he has not been a glider since about a year ago. He was at Kilaheo, Hawaii, for two seasons in 1911 in a 57 m.p.h. glider. Ormond-Daytona Beach will be a novel place to hold a contest for the reason that a strong breeze from the sea generally prevails in which the glider can make a glide in the air. It is believed that in the most there is no known, trials are to be made by having the gliders towed by automobiles to get up flying

The prize is open to international competition. The Royal Aeronautical Society retains the right to withhold the prize in any year, if it is considered that no paper is of sufficient merit to justify an award.

Intending competitors should send their names to the Secretary of the Royal Aeronautical Society, 2, Abchurch Lane, London, W.C.1, on or before Dec. 31 of each year, with the title of the paper, and the name of the author. The papers will be written and the names of the authors will be made up in a separate list. The closing date for the receipt of papers will be March 31 of each year.

Papers should be double spaced, typed, and a copy should be signed by the Author, as the Society has taken no responsibility for the loss of copies submitted to it.

Successful papers will become the absolute property of the Society, and will be sent out to members by publication in the Society's Journal. In regard to successful papers, the Society retains the right of publication in its Journal, but in no case will the author be asked to publish elsewhere. A signed understanding must accompany each paper, to the effect that publication has not already taken place and that the Author will not communicate elsewhere until the Society's award is published. Due acknowledgment must be made by the Author of the source of any special information.

Keel of U. S. Zeppelin Laid

The keel of the U. S. naval zeppelin ZSC-1, to be built in Germany as a replacement ship for Zeppelin destroyed at the Battle of the Marston, was laid at the Zeppelin factory at Friedrichshafen, Germany.

The ship is expected to be completed in August, 1933. After trial flights in Germany, delivery to America by air will be undertaken by a German carrier under the supervision of the American aeronautics mission detached for this purpose to the Zeppelin factory.

speed. The same could be done on the Hudson River for the moment gliders, or off shore where the sea is smooth for land craft as well stand the waves.

It is proposed to make this competition an international one open to all kinds of motorless machines, both land and air, and there will be a classification for low-powered sport machines of from 5 to 10 hp.

When the fact is recalled that Miles Christensen was once built and flew a monoplane with but 3 hp., and that H. B. Herring, of Berlin, Germany, once flew a monoplane with 2 hp. triplane to America and flew it successfully a decade or more ago, one can see that there are great possibilities in these low-powered sporting machines.

Among the latest developments in the flying of a horizontal land over a smooth sea, and with the trade winds which obtain in Florida, this should prove to be an excellent locality for experimenting in this direction. Already a monoplane with flexibly mounted wings at the rear opens her way from the water and flies for three minutes or more in one soaring flight showed. This would indicate that we shall soon be soaring over the ocean for longer periods than is done at the present, and as an example was observed to the morning near a ship at sea. This observation proved that there is no essential difference between land and sea-soaring birds; there is a glider should be able to fly just as well over the coast as over the land.

Devisations have been extended to the Air Service, The Air Mail Service, and the Bureau of Aeronautics of the Navy. The report is that the competition. Any ship or individual not being received notice is hereby invited to compete at Daytona.

General Mitchell's Maximum Speed Record

How the Great Performance Was Officially Observed

The following official report by the United States, Aero Club of America, for the record time observed on the Belmont Field, St. Louis, Mo., Oct. 18, when Reg. Gen. William Mitchell, Assistant Chief of Air Service, made a new world's maximum speed record, is of interest on several accounts. First, it shows our readers to become familiar with the expression of the F.A.I. governing such trials. Second, it shows that General Mitchell's record was made under strict observance of F.A.I. rules, and hence the performance counts in the official world record. It is well to emphasize the latter point, for some of our European friends have recently come to rest doubts on all American performances because of the irregular manner in which many of them were made up to F.A.I. rules. The record which follows should suffice to show their skepticism in this matter.

Speed Trials Conducted at Selkirk Field Oct. 18, 1932

These speed trials were conducted for the purpose of determining the average stratospheric speed of the Curtiss high speed pursuit airplanes which won the Pulitzer Trophy Race on Oct. 14 and which was known as the course in No. 43.

The preparation for these trials was carefully carried out in strict accordance with F.A.I. regulations. A course exactly as indicated in length was laid out in the center of Selkirk Field, extending westerly to a marker in the center of the field. The tailwind, and the windward and the station number two. The course was accurately surveyed and rechecked during the location of Oct. 18.

Trials were made at each end of the course in strict accordance with the diagram shown on page 152 of the Aero Club of America Race Book. The Indianapolis Motor Speedway observer line was used to time the Pulitzer Trophy Race as was at up and properly wired to make the operation from both ends of course flights. The chronometer during part of the electric timing device was calibrated by the Bureau of Standards and the Pulitzer Trophy Race.

Timers and observers were stationed as follows: Fred H. Haver, acted as observer at the 500 meter point before station number one. Raymond White acted as observer at the 500 meter point before station number two.

Harry H. Kupper acted as Chief Timer with G. A. Porter acting at Station No. 1.

W. M. Wilson acted as Assistant Timer and operated the watch at Station No. 2.

In Russell Shaw acted as observer at Station No. 2.

J. O. Vincent acted as observer at Station No. 1 in addition to supervising the trials.

The trials were conducted between 1:30 and 4:30 p.m., at which time the atmosphere was approximately 55 deg. Fahr., with a northwest by north wind having a velocity of approximately 10 m.p.h.

Airport at Medina, Pa.

A new field was signed in Medina, Pa. on Oct. 25, last, when the Medina Flying Field was inaugurated at Medina, Pa. The field was officially dedicated by a plane flying over it and dropping an American flag. Governor Speed of Pennsylvania made an address at the ceremony. The field is owned by the Army from C. Frank Williams, president of the Medina Men's Association. Admiral Kewenig, of the Philadelphia Navy Yard located the station with an immense space for the new field, which had been selected from many places in and around Philadelphia.

Some twenty airplanes of all types were present and given the field a great success. The field is owned by the Medina Men's Association. The ships included the following: DH4D,

lastly 38 m.p.h. Two complete trials were made, the total results of which are recorded on the attached report and certified to by Harry H. Kupper, Chief Timer.

As shown on the diagram above, the average speed obtained in the first trial was 305.715 kilometers or 190.18 m.p.h., and the second trial was 301.228 kilometers or 187.20 m.p.h. The two trials were completed in continuous flights in the order shown on the diagram above. The plane was piloted by Reg. Gen. William Mitchell, and all other matters were arranged in strict accordance with F.A.I. regulations as certified to by all observers. In each flight the plane came down to an altitude of less than 500 meters before passing the 500 meter station, and the second trial was made in the same manner from this point until the course had been passed over.

J. O. Vincent,

Local Representative, United States Aero Club.

Oct. 18, 1932

DETROIT AVIATION SOCIETY
At G. A. Porter's Office
(Detroit Times)
Secretary: Mr. H. Kupper
Oct. 18, 1932

Station 1044

Station 1044, at 10-Meter Point, COG, 575 ft. h.

First seven seconds—4:00 p.m.

	Time	Speed	Altitude
North bound 1st flight	0:00	305.715	190.18
North bound 2nd flight	0:00	301.228	187.20
North bound 3rd flight	0:00	301.228	187.20
North bound 4th flight	0:00	301.228	187.20
Average	0:00	301.228	187.20

Second seven seconds—4:15 p.m.

	Time	Speed	Altitude
North bound 1st flight	0:00	305.715	190.18
North bound 2nd flight	0:00	301.228	187.20
North bound 3rd flight	0:00	301.228	187.20
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(Signed) H. H. Kupper

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N.A.A. on Safety Code Committee

In accordance with a request from the National Committee for the American Aeronautical Safety Code, the National Aeronautics Association of U.S.A. has appointed its vice-president, **Donald H. Edwards**, and **Col. Harold E. Hartman**, its general manager, as members of the Committee.

The Committee on Nov. 10 finished its deliberations at the U. S. Bureau of Standards, Washington, D. C., where together with various field-committees, it has been formulating an Aerial Safety Code which should be basic for the manufacturers and operators of aircraft in this country to introduce into their action on every measure of safety which engineering practice and operating skill can devise.

The National Committee is headed by **H. M. Cross**, M. E., Chairman, Secretary of the Wright Aeronautical Co.; **Dr. J. S. Ames**, Head of the Mechanical Engineering Department, Johns Hopkins University; and **Member of the National Advisory Committee on Aeronautics**, **Vice-Chairman**, **Dr. H. G. Lloyd**, R. E., of the Bureau of Standards, Secretary, and **Arthur Haines**, E. E., of the Bureau of Standards, Assistant Secretary. The representatives on the Committee are prominent members of the following organizations:

National Aeronautics Association of U.S.A., Inc., American Aeronautical Association, Aero Club of America, U. S. Bureau of Standards, Society of Automotive Engineers, American Society of Safety Engineers, U. S. Post Office Department, National Aeronautics Underwriters Association, U. S. Weather Bureau, American Institute of Electrical Engineers, National Safety Council, Underwriters Laboratories, U. S. Coast Guard, Radio Society of America, American Society of Mechanical Engineers, American Society for Testing Materials, U. S. War Department and the U. S. Forest Service.

The working out of the safety code has been placed in the hands of special Committees—viz.,

Sub-committee on Airplane Altimeters—**Dr. E. P. Weir**, Supervisor of Aeronautics, Massachusetts Institute of Technology, Chairman.

Sub-committee on Fuel Pumps—**George J. Mead**, Wright Aeronautical Corp., Chairman.

Sub-committee on Equipment and Maintenance of Airplanes—**Archibald Black**, New York City, Aeronautical Engineers, Chairman.

Sub-committee on Lighter-than-Air Craft (Balloons, Airships, Parashutes)—**Edwin H. Spence**, Aeronautical Engineer, Detroit, Mich., Chairman.

Sub-committee on Landing and Traffic Rules (Landing Fields, Airports, Traffic Rules, Signs, Obstructions for Pilots)—**Arthur Haines**, Associate Electrical Engineer, Bureau of Standards, Washington, D. C., Chairman.

This Committee has previously completed the codification of safety rules for all of the activities covered by the Sub-committees, which has been a monumental work, but will be undoubtedly the basis for complete regulations between all agencies engaged in every phase of aeronautics to make air navigation safe, not only from the standpoint of the pilot, but of passengers and public and private property. It has been felt by all those representing aviation that a safety code should grow up with the development of the industry which can be used by manufacturers and operating companies, manufacturing companies, and even by municipalities and states in formulating regulations covering the manufacture and use of aircraft within their jurisdiction. In this way there will be uniform measures taken, rather than divergent and conflicting laws, regulations and rules promulgated by forty-eight states, and no one knows how many municipalities.

Dutch Flying Regulations

Flying regulations of the Netherlands Government provide that the maximum altitude over densely inhabited areas is 500 meters (1,515 ft.). All aircraft must adhere to at least a height over towns or public gatherings as will permit of their landing outside of such areas in case of engine failure. No track flying may be indulged in above densely inhabited areas or public gatherings.

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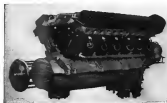
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